

CLAIMS

What Is Claimed Is:

1. A filter, comprising:

a housing defining a recipient chamber, an inlet port, a discharge port and a refuse port;

a collector housing located within said recipient chamber and defining a top end and a closed bottom end, said top end attached to said discharge port;

a plurality of ring-shaped filter layers, each having a central aperture for accepting said collector housing therethrough; and

a compression plate retaining said filter layers around said collector housing.

2. The filter of Claim 1, wherein:

said collector housing defines a central axis; and

said ring-shaped filter layers define generally planar shape and are in closely spaced parallel arrangement in a plane perpendicular to said central axis.

3. The filter of Claim 2, wherein said plurality of ring-shaped filter layers define a filter stack having a height in said central axis direction, said filter further comprising an adjustment device for retaining said filter stack and said compression plate to said collector housing.

4. The filter of Claim 3, wherein said adjustment device is threadedly engaged with said bottom of said collector housing, whereby rotation of said adjustment device compresses or relieves compression against said compression plate and said filter stack.

5. The filter of Claim 4, wherein said filter stack is further defined by flow channels formed between each adjacent pair of said filter layers, said flow channels defined by a horizontal gap in the direction of said central axis, said gap height responsive to rotation of said adjustment device around said collector housing end.
6. The filter of Claim 5, wherein said filter layers are rigid.
7. A method for removing entrained solids from a fluid, comprising the steps of:
 - introducing said fluid having entrained solids into a recipient chamber;
 - urging said fluid having entrained solids to flow in between ring-shaped planar filter layers;
 - collecting said fluid in a collector chamber; and
 - discharging said fluid from said collector chamber.
8. The method of Claim 7, wherein said recipient chamber houses said collector chamber.
9. The method of Claim 8, wherein said urging comprises urging said fluid having entrained solids to flow from an outer periphery of said ring-shaped planar layers to an inner periphery, said inner periphery adjacent to said collector chamber.
10. The method of Claim 9, wherein said collecting comprises collecting said fluid in a tubular collector chamber defining a generally central axis perpendicular to said plane of said layers, said collector chamber having a collector housing defined by a plurality of weep apertures formed therein for accepting said urged fluid therethrough from said filter layers and into said collector chamber.
11. The method of Claim 10, further comprising an adjustment step comprising adjusting a retaining plate along said central axis in order to responsively adjust the gaps between each said planar filter layer.

12. The method of Claim 11, wherein said adjustment step comprises moving an adjustment device attached to said collector chamber.

13. The method of Claim 12, wherein said moving comprises rotating said adjustment device, said adjustment device being threadedly engaged with said collector chamber.

14. A multiple parallel layer filter, comprising:

a tubular collector housing having a top end attached to a lid, a bottom end having a threaded outer surface and defining a generally central axis;

a plurality of planar filter layers arranged around said tubular collector housing to form a stack of said layers rising in the direction of said central axis;

a compression plate having a central aperture formed therein, said collector housing residing through said central aperture;

an adjustment device threadedly engaged to said threaded outer surface to retain said compression plate and said stack about said collector housing; and

a housing and a lid attached thereto cooperatively defining a recipient chamber, said collector housing, said stack, said compression plate and said adjustment device residing in said recipient chamber.

15. The filter of Claim 14, further comprising:

an inlet port formed in a side wall of said housing;

a refuse port formed in a bottom wall of said housing; and

a discharge port formed in said lid and in fluid communication with said top of said tubular collector.

16. The filter of Claim 15, wherein said stack is defined by a stack height, said stack height dimension being responsive to rotation of said adjustment device.

17. The filter of Claim 16, wherein each said layer defines a ring-like shape having a large outer periphery and a smaller inner periphery defining an inner aperture, said inner aperture cooperating with said collector housing to accept said collector housing therethrough.

18. The filter of Claim 17, wherein said collector housing is further defined by a plurality of weep apertures between said top and said threaded portion at said bottom.